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54 **Annular nozzle and process for its use.**

57 A synthetic or fuel gas mixture containing hydrogen and carbon monoxide is made by the partial oxidation in a free-flowing hollow reactor of a slurry of solid carbonaceous fuel in a liquid carrier admixed with a gas containing free oxygen using a nozzle in which an annular slurry stream is enveloped between central and annular streams of high velocity gas. A uniform atomized admixture of solids, liquids and gases is formed by impinging the annular slurry stream on a downstream nozzle diffuser, and then transported through an exit orifice at an accelerated velocity to further atomize the admixture. The nozzle preferably has a slurry passageway (32) formed of two elongate segments (32a,32b), the upstream segment (32a) being of greater cross-sectional area than the downstream segment (32b). The nozzle also is of general use in mixing a slurry with a gas.

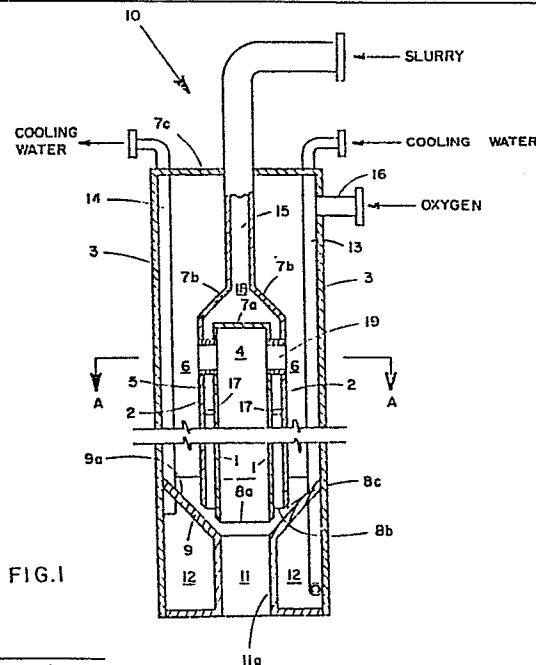


FIG. 1



EP 86 30 2759

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Y	PROCEEDINGS SIXTH INTERNATIONAL SYMPOSIUM ON COAL SLURRY COMBUSTION AND TECHNOLOGY, 25th - 27th June 1984, Orlando, Florida, US, pages 1020-1025, Pittsburgh Energy Technology Centre, Pittsburgh, Pennsylvania, US; H.C. SIMMONS: "The atomization of slurries" * Page 1023 *	1,7	C 10 J 3/48 C 10 J 3/46
A	idem ---	4	
Y	EP-A-0 130 630 (SHELL) * Page 8, line 24 - page 9, line 30 *	1,7	
D,A	US-A-4 364 744 (CROUCH) * Column 10, lines 7-28 *	2,3,8,9	TECHNICAL FIELDS SEARCHED (Int. Cl.4) C 10 J C 01 B F 23 D
A	FR-A-2 199 850 (SOCIETE IND. DE LILLERS) * Page 3, lines 11-28 *	1,7	
D,A	US-A-4 443 230 (STELLACIO) * Columns 10-12 *	1	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 29-01-1987	Examiner WENDLING J.P.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			